Resource Management

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Wind Cave National Park Resource Management News Briefs

This Issue Edited by Ken Hyde, Chief of Resource Management

WIND CAVE NATIONAL PARK - SO MUCH TO SEE AND DO!

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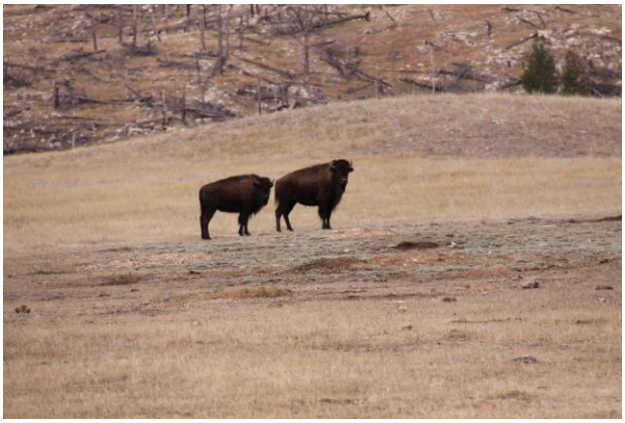
- The opinions found within the articles are the opinions of the person that submitted the article and not necessarily the opinions held by park management.

Wind Cave Bison Find a New Home in Mexico

By Ken Hyde, 12/01/09
WICA Chief of Resource Management

WICA bison pass under International Border Fence on their way into Mexico and a waiting transport truck .(NPS photo)

Twenty three bison that were surplus to the management goals of the bison herd at Wind Cave National Park have been donated to Mexico to become the nucleus of a new national herd. They will help begin the process of restoring this species, which is listed as endangered in Mexico, back to prominence once again on the open plains of northern Mexico. On November 2nd , the 23 wild bison were prepared for loading into a waiting transport truck to begin a 21 hour drive to the U.S./ Mexico International border.



Two WICA bison nearly escape a life of fun and sun in Mexico. They were quickly rounded up and loaded into a transport truck with the other 21 bison. (NPS photo)

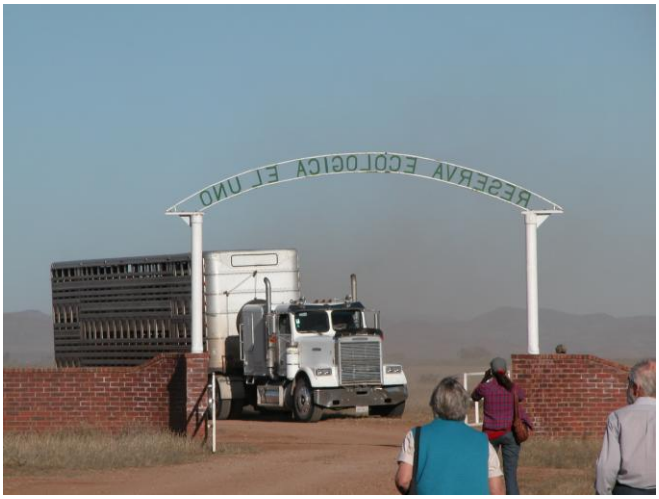
Just to scare everyone, two of the bison managed to squeeze through a human entry passageway during loading and headed for the high country. Luckily, they ran into one of the large gathering pens used to funnel bison into the roundup corral area and were soon reunited with their fellow international traveling buddies.

This loading of the bison was a culmination of several months of preparation spent obtaining the required permits and documentation from a host of U.S. and Mexican agencies. Everything needed to be in order so that a smooth transition from the Black Hills of South Dakota to the plains of the El Uno Ecological Reserve could occur. Special thanks goes to Cindy Tolle of Custer, SD and Director of the Tutuaca Mountain School in Mexico. She, along with a coalition of government, university, and non-profit representatives from the "Grupo de Trabajo Para la Restoraciòn del Bisonte en Mexico" (Work Group for the Restoration of Bison to Mexico) worked through a mountain of details in both countries and were a great help to Wind Cave National Park staff.

Wind Cave bison awaiting inspection by U.S. and Mexican authorities with the large international fence in the background. (NPS photo)

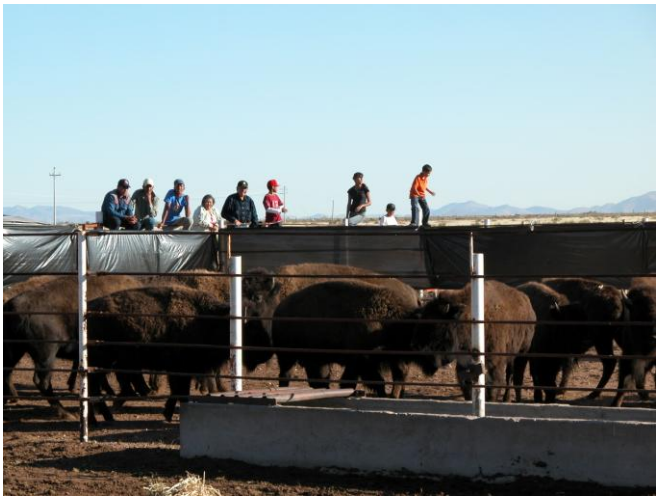
As the 23 yearling bison arrived at the International border crossing at Santa Teresa, New Mexico at 8:00 am on November 3rd, a host of both U.S. and Mexican government officials went to work processing the animals and ensuring that all of the permits and paperwork were completed

in a timely manner. By 11:00 am the bison were ready to proceed through a set of runways beneath the new 20 foot tall international border fence and into a waiting transport truck on the Mexico side. A great sense of anticipation and excitement could be felt as the more than 20 officials and representatives who had helped to make this exchange of bison possible waited with cameras as the first group of bison came down the alley way. Some of the whooping was intended to keep the bison moving, but much of it was a whoop of joy as the bison loaded up into the truck and a new era of restoring bison to Mexico was begun.



The WICA bison transport truck enters the El Uno Ecological Reserve near Janos, state of Chihuahua, Mexico on November 3rd. (NPS photo)

As the nearly 3 hour truck ride to their new home near Janos, Mexico came to a close, a large crowd of over 100 people waited at the El Uno Ecological Reserve headquarters. The group included additional government representatives who had made the drive from all parts of Mexico just to see this historic moment. Many in the group were neighbors and friends of the reserve, which is managed by The Nature Conservancy-Mexico, who wanted to see the release of the bison. Once the truck was in place at the unloading ramp, the transport truck doors were opened. Although a large crowd surrounded the pens, a quiet hush fell over the group as the first animals came running down the ramp, and then everyone began talking at once as they got their first look at these stately animals of the Great Plains. After 24 hours in transport trucks, the bison appeared glad to be on solid ground. As soon as the people began to disperse, the bison headed for the feed and water troughs. And as is tradition in Mexico, the people also headed to a waiting fiesta with many of the common foods and drinks of the region that were provided by the TNC and their partners.



The Wind Cave bison all made it safely to Mexico. A large crowd were on hand to see their arrival. (NPS photo)

A large ceremony was next planned to coincide with the release of the bison following a short quarantine period to observe the bison for any health complications. On Friday, November 27th, the Mexican Secretary of the Environment and the Governor of the state of Chihuahua both traveled to the El Uno Ecological Reserve to serve as dignitaries and keynote speakers. They handed out national conservation awards, officially decreed the 1.35 million acre Janos Biosphere Reserve, and then released the WICA bison from the quarantine pen out into the El Uno Ecological Reserve. Over 450 people from all areas of Mexico attended the ceremony.

The bison were hesitant to leave the holding pen with so many people watching and so the Governor (and very quickly his body guards) along with the Mexican Secretary of the Environment jumped into the pen and encouraged them toward the gate. The bison finally headed out in a cloud of dust and took a long run out into their new homeland. They will initially be kept in an approximately 1000 ac. area with several watering holes for observation and will soon have access to an additional 1500 ac. area. Eventually, as the

herd builds, they will have access to the entire 40,000 acres in the El Uno Ecological Reserve.

The new habitat includes large expanses of prairie once inhabited by large herds of bison and other prairie wildlife. (TNC photo)

The bison will be welcomed by large populations of prairie dogs, burrowing owls (nearly 400 nesting pairs were observed in 2009), recently released pronghorn antelope (from New Mexico and Wyoming), and newly released black-footed ferrets from the U.S. It is hoped that the offspring from these bison along with future imports of Wind Cave bison will be the founding animals for additional reserves in 3 other states of northern Mexico.

NPS veterinarians ran additional blood tests on the three largest yearling females, and we were able to notify the partners and staff at El Uno Ecological Reserve that they can expect at least 2 calves to be born during the spring of 2010. That will be an exciting time as this endangered species in Mexico starts the road to recovery.

Wind Cave National Park staff should be especially proud of the large scale and very safe 2009 bison roundup. Their hard work allowed for this historic event of sending bison to Mexico. A total of 96 bison were sent to new homes following the October 19th and 20th roundup operation. Animals were sent to the Fort Peck Tribes in Montana, the Spirit Lake Tribe in North Dakota, and the Standing Rock Sioux Tribe located in North and South Dakota. Bison were also sent once again to Broken Kettle Grasslands in Iowa. In another historic effort, bison were also released back into one of the few remaining tallgrass prairie plant communities at the Tallgrass Prairie National Preserve in Kansas, which is administered in partnership with the National Park Service and the Kansas Park Trust.

2009 Christmas Bird Count

By Dan Roddy, 12/1/09
WICA Biologist

The 14th annual Wind Cave National Park Christmas Bird Count will be held on Sunday, December 13th, 2009. It is patterned after the nationwide National Audubon Society effort to document trends in wintering birdlife throughout the United States. The area we'll cover is a 15 mile diameter circle with the center of the circle being the Rankin Ridge fire tower. The count covers all of Wind Cave NP and areas of the Black Hills National Forest and Custer State Park. We plan to meet at the Park Visitor Center around 8am, and after a great day of birding we'll meet for a Pot Luck Supper around 4:15pm, at the VIP center. Send a note if interested...or just show up. Please call Dan Roddy at 605-745-1157 (or email: dan_roddy@nps.gov) or Barb Muenchau at 605-745-1150 (or email: barbara_muenchau@nps.gov) if you have any questions.

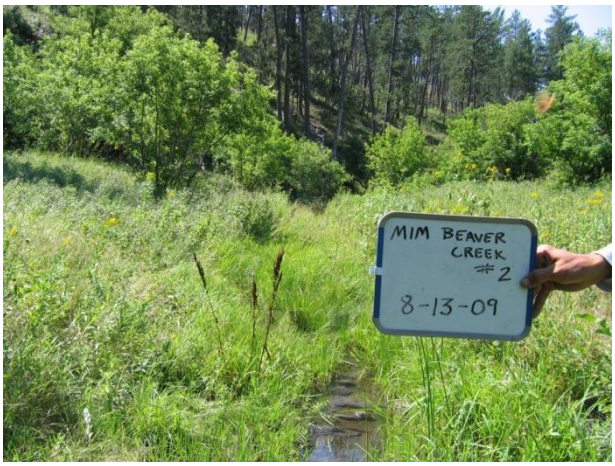
Riparian Monitoring in Wind Cave National Park in 2009 – MIM (not Mum) is the Word!

By: Beth Burkhart, WICA Botanist
Date: October 21, 2009

The limited surface water resources of Wind Cave National Park are extremely important to its plants and animals, yet there are currently no objectives or desired conditions established for streams and riparian ecosystems. [Note: According to Merriam Webster, the word "riparian" means "of or relating to or living or located on the bank of a watercourse (as a river or stream)."]. Water is already recognized as valuable (quote from Mark Twain: "Whiskey is for drinking. Water is for fighting over!"). However, water resources are expected to become even more precious in the days of climate change and human population

growth ahead – and Wind Cave NP will not escape impact.

In Wind Cave NP's Resource Management division, there are people with specialties in wildlife, plants, and water. Stream and riparian management is one place where we all intersect! Focusing on stream/riparian objectives and desired conditions will give us an opportunity to work together for the benefit of the park. The high variability in the park's surface water systems resulting from the underlying limestone/karst geology adds complexity to the task of developing surface water resource objectives. Stream condition/status objectives will have to be flexible to have meaning and provide useful comparisons from year to year. For example, objectives may be set for percentages of stream length with different sets of characteristics (such as streambank stability, vegetation composition, etc.) rather than set for absolute distances with certain characteristics. Setting desired stream condition/water quality goals and working with feedback from attempts to meet them will be invaluable to refining goals that are: 1) realistic, and 2) effective in balancing high quality surface water resources with other valued natural resources of the park.



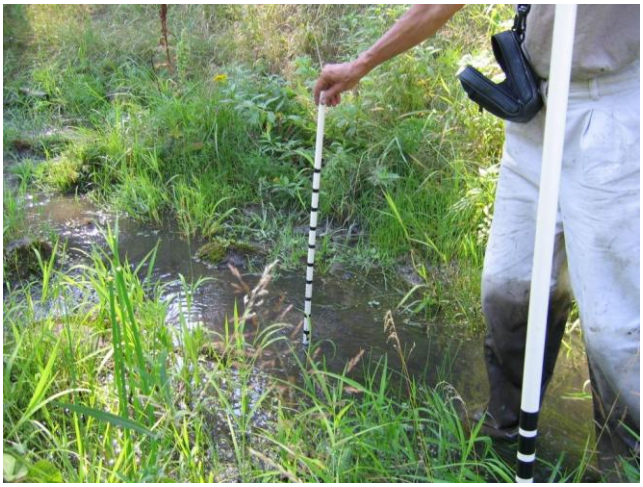
Start of Multiple Indicator Monitoring (MIM) transect on Beaver Creek (NPS photo)

MIM is the shorthand name of a monitoring protocol called "Multiple Indicator Monitoring of Stream Channels and Riparian Vegetation". This protocol was developed jointly by BLM and US Forest Service personnel after working on riparian management in the western United States for many years. Training on MIM has been conducted in the Black Hills several times in the last 2 years, including a session in October 2008 led by Ervin Cowley, one of the protocol authors. Wind Cave NP Botanist Beth Burkhart attended that training. Although MIM development was initiated as a result of livestock grazing management concerns, the long-term monitoring techniques provide useful data describing the general condition and trend of stream channels and riparian vegetation regardless of the kind of management activities occurring.

Wildlife are not equivalent in a number of important ways to livestock but the logic behind investigating how they relate to and affect riparian resources is parallel. Adaptive livestock grazing management requires developing specific riparian and stream management objectives, a grazing management plan designed to meet those objectives, and long-term monitoring criteria used to evaluate success. Annual monitoring of livestock helps determine if grazing management is being implemented as planned and if the plan is helping to achieve resource objectives. Establishment of specific riparian and stream management objectives makes it possible to document stream status and condition. Wildlife management plans should likewise include riparian and stream management objectives, and long-term criteria developed and used to evaluate success. If objectives are not being met, then management of wildlife and other relevant factors can be examined to determine ways to achieve them.

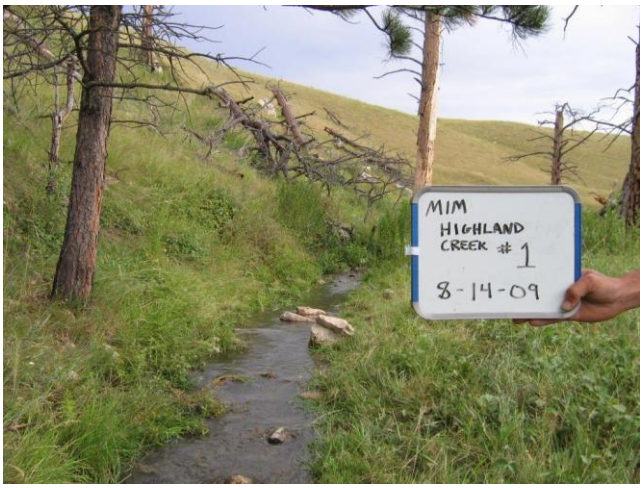
In late summer/early fall 2009, WICA-Resource Management/Vegetation personnel established and recorded data from five MIM transects: two on Beaver Creek east of Confluence Spring (east of the junction with Cold Spring Creek), two on Highland Creek, and one on Beaver Creek west of the high bridge. Once trained up and "broken in", it took a crew of 2 RM/Veg people about 6 hours to collect data on a full transect (120 m long, including 80 data collection points). One of the attractive features of the MIM protocol is that it is primarily quantitative, where many other stream

protocols are qualitative and subjective. Subjectivity leads to lack of repeatability, which doesn't help data credibility or comparisons over time (monitoring). Also, with quantitative data, it is possible to determine accuracy and precision of results. With the MIM protocol, plots of several different sizes are established at each data collection point. This might sound complicated, but a great deal of thought was put into the protocol design so that the sequence of data collection is not difficult. The data collected at each point includes: maximum stream depth, stream water width, substrate sizes, greenline-to-greenline width, number of streambank alterations, streambank stability class, stubble height, plant species composition (dominant/subdominant), woody species regeneration, and woody species use.



Measuring stream depth on Beaver Creek MIM transect. (NPS photo)

The published MIM protocol (available on the www at: http://www.blm.gov/id/st/en/info/publications/technical_bulletins/tb_07-01.html) includes a spreadsheet with pre-installed calculations so that statistics are calculated as field data is entered (for example, mean greenline-to-greenline width with standard error and confidence interval). Other calculations provide quantitative results based on the original data, such as the ratio of greenline-to-greenline width (GGW) with water width (WW). A high ratio of GGW to WW can indicate that some factor is removing or destabilizing vegetation from the streambank – creating an unstable or unsustainable condition. This could provide early warning on a stream section that might respond to flooding or high water with rapid and irreversible erosion. The most important thing, though, is that current condition is recognized. More detailed review can then be done to understand the specific situation and determine if the stream is or is not meeting established objectives/desired conditions. Some factors causing bare ground may be improved by a change in management. Other factors may be outside management control, in which case the data is still invaluable in documenting conditions and how changes occur over time.



Start of Multiple Indicator Monitoring (MIM) transect on Highland Creek (NPS photo)

The MIM data collected in 2009 has not yet been analyzed – a good winter project for a botanist! Stay tuned to future Resource Ramblings for updates on results and stream/riparian management discussions.